Integrated Pest Management Plan

IPM Plan Effective Dates:	May 2014 through October 2016
Management Area Name/Location:	Alaska Plant Materials Center (PMC)
General Site Description:	Farm located on State of Alaska land in Palmer Alaska 5310 S. Bodenburg Spur Rd Palmer, AK 99645
Land Uses:	Farming, Seed Production, Variety Trials, Research
Name of Person in Charge:	Robert Carter
Certified Applicator Name(s):	Gary Antoni, Rory Hammel, Chris Barnes, Rusty Foraker, Todd Steinlage, Robert Carter, Dima Mozalevskiy, Jackie Schade, Lubo Mahlev, Brianne Blackburn, Heather Stewart
Certification Numbers:	At request of Person in Charge

1. Action Thresholds

Check the types or categories of pests that might present a problem or need to be controlled at this management site:

✓	Category
X	**Vegetation**
X	**Insects**
X	**Plant Pathogen**
	Rodents
	Other (describe below)

For each pest category listed above, describe the level at which the pest becomes a problem which requires control measures to be taken.

Vegetation:
Any vegetation classified as a weed or other crop in comparison to that species being grown, cultivated or in production will not be tolerated. Unwanted vegetation competes against species in production, reducing over all performance and lowering yields of plant materials to be harvested.

Fungus:
Any fungus, bacteria, virus, nematode or other pathogen that is deemed harmful to a species in production or having the capabilities to spread to other crops in production will not be tolerated.

Insects:
Insects that can cause significant damage reducing vigor to a species in production or act as a vector for diseases will be controlled to a level below a threshold that is considered to not be a limiting factor to meet the facility's mission.

2. Monitor and Identify Pests

How often will the management area be inspected for the presence of pests?

Production fields will be monitored twice weekly. When pest level is near an action threshold monitoring will increase to daily until pest populations decline from either management or natural senescence.

Which locations will be inspected?

All property of the Alaska Plant Materials Center.

What methods will be used for identifying and quantifying the presence of pests?

Visual inspections will be used for identification and quantification of the presence of pests

How will pest species be identified?

Pest species will be identified by visual examination. If identification of pest; vegetation, pathogen or insects cannot be made immediately made in the field, unknown pest will be collected for examination with in the laboratory.

Describe record keeping procedures:

Pest management records will be maintained at the PMC.
A record of each inspection will include the date, locations, and extent of pest presence.

A record of each pesticide application will include the date, location, and details about the pest it was applied to as well as the control that was achieved. Another inspection will follow after the REI of the applied pesticide expires.

Each follow up inspection report of a pesticide application will include the date, location, evaluation of how effective the application was in controlling the target pest, and recommendations for follow up actions.

3. Prevent Pests

For each pest category listed under Section 1, describe preventative measures that will be taken:

Vegetation: Crop rotation, mechanical control methods and the establishment of cover crops will be used to suppress unwanted vegetation.
Plant Pathogen:
Using only pathogen free planting stock will be the foundation for preventative control of disease. Other fungus prevention strategies will include tillage, crop rotation, proper spacing, irrigation and fertilizer management for each species in production, as well as removal of plant debris and weeds.
Insects:
Removal of field plant debris, implementation of physical barriers and the use of pest resistant varieties where applicable in production fields will be used for insect prevention.

How often will preventative measures be applied?

Preventative measures will be implemented and trialed for control prior to any application of a pesticide. Preventative measures may be applied daily if a positive responsive in controlling pest in achieved.

4. Control Measures

For each pest category listed under Section 1, list potential non-chemical control measures that may be used:

Cultural Controls:	**Vegetation, Plant pathogen, Insect:** Irrigation Management, Plant selection, Induced Competition, Plant debris management and Environmental modification from pruning and plant spacing. .
Mechanical Controls:	**Vegetation:** Hand pulling, shallow cultivation, burning and mulching. **Plant pathogen:** Removal of infected plants and plant debris. **Insects:** Barriers, traps, water pressure, vacuuming and hand removal.

For each pest category listed under Section 1, describe the characteristics needed in any chemical controls that may be used:

Vegetation:
Pre or post emergent, broad spectrum, or selective based on target pest and infested crop in consideration.
Fungi:
Protective contact, local penetrant, or systemic control.
Insect:
Contact, fumigant, residual, systemic or ingested.

For each pest category listed under Section 1, list potential chemical controls that may be

Product Name	EPA Registration
Vegetation Control	
2 4D Amine 4	1381-103
2 4D LV4	1381-102
Ally XP	352-435
AquaMaster	524-343
Broclean	34704-891
Bronate Advanced	264-690
Buctril	246-437
Clarity	7969-137
Cornerstone 5 Plus	42750-59-1381
Cornerstone Plus	1381-192
Curtail	62719-48
Dimetric DF 75%	1381-197
Diuron 4L	34704-854
Escalade 2	228-442
Foothold Extra	34704-1046
Gallery 75DF	62719-145
Garlon 3A	62719-37
Garlon 4	62719-40
Garlon 4 Ultra	62719-527
Glean	352-522
Goal 2XL	62719-424
Grassgetter	7969-58-54705
Habitat	241-426-67690
Intensity One	34704-976
Lorox DF	61842-23
Matrix FNV	352-671
Matrix FNV	352-556
Matrix SG	352-768

MCP Amine 4	34704-130
Metribuzin 75	34704-876
Metribuzin 75DF	66222-106
Milestone VM	62719-537
Pendulum AquaCap	241-416
Poast	7969-58
Prowl H_2O	241-418
Raptor	241-379
Reglone Dessicant	100-1061
Roundup Pro	524-475
Scotts turf Builder Plus weed control	538-270
Sencor DF	264-738
Snapshot 2.5TG	62719-175
Stinger	62719-73
Surflan A.S. Agricultural	70506-43
Transline	62719-259
Fungicide	
Abound	100-1098
Algaefix	8709-8
Aliette WDG	264-516
Bravo Ultrex	50534-201-100
Brovo Weather Stik	50534-188-100
Cuzate 60DF	352-592
Diathane 75DF Rainshield	62719-402
Elemental Sulfur Prills	EXEMPT
Green-Shield	499-368
Kocide 2000	352-656
Maxim MZ	100-1158
Omega 500F	71512-1-100
Polyram 80 DF	7969-105-34704
Previcur Flex	264-678
Ridomil Gold SL	100-1202
Insecticide	
Azaguard	70299-17
Azamax	71908-1-81268
Azatin XL	70051-27-59807
Conserve SC	62719-291
Diazinon AG500	66222-9
Entrust	62719-282
Entrust SC	62719-621

Gnatrol WDG	73049-56
Hi Yield Malathion	34911-2-AA
Hot Pepper Wax	4-397
Kontos	432-1471-59807
Lorsban 75WG	62719-301
Malathion 5	9779-5
Marathon 1%G	432-1329-59807
Marathon II	432-1369-59807
Merit 2F	432-1312
PT Pyreth-It Formula 2	499-475
PT Ultra-Pure Oil	69526-5-499
SaferBrand BioNeem	700051-6-42697
Sevin 4F	61842-38
Sevin SL	432-1227
Tempo 20WP	432-1302-11556

Describe how treated areas will be re-inspected and evaluated for effectiveness of controls:

A follow up inspection will begin following each application after the REI of the applied pesticide expires and will continue until control goals are met or other management options are implemented

Each follow up inspection report of a pesticide application will include the date, location, evaluation of how effective the application was in controlling the target pest, and recommendations for follow up actions.